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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,899

02/09/2004

Craig Smith

14374.105

8764

22913

7590

08/03/2006

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EXAMINER

HO, ALLEN C

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/774,899	SMITH ET AL.	
	Examiner	Art Unit	
	Allen C. Ho	2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-35 is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-15 and 36 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

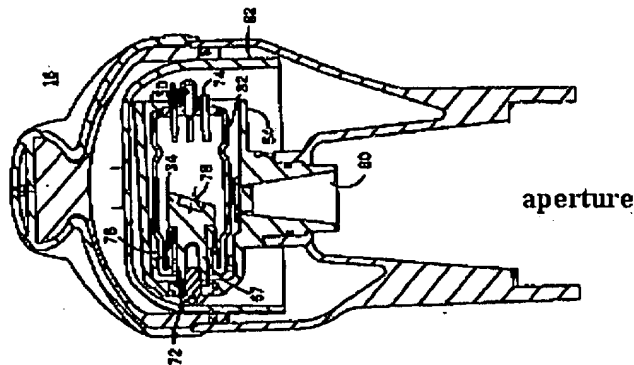
1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kantor *et al.* (U. S. Patent No. 6,644,853 B1).



With regard to claim 1, Kantor *et al.* disclosed an x-ray tube comprising: an evacuated enclosure (32) containing an electron source (36) and an anode (34) positioned to receive electrons produced by the electron source; an outer housing (16) containing the evacuated enclosure; and a mounting portion comprising: a first mounting portion (20) that mechanically attaches to an outer surface of the outer housing, and a second mounting portion (54) that

mechanically attaches to a portion of the evacuated enclosure, wherein the evacuated enclosure is mechanically supported by the second mounting portion, and wherein the second mounting portion is mechanically supported by the first mounting portion (Fig. 4 shows the first mounting portion mechanically supports the second mounting portion, and the second mounting portion mechanically supports the evacuated enclosure).

With regard to claim 7, Kantor *et al.* disclosed an x-ray tube as defined in claim 1, wherein the mounting assembly is further configured to mechanically attach the x-ray tube to a portion of an x-ray generating device (10).

3. Claims 1, 2, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Braun *et al.* (U. S. Patent No. 3,992,633).

With regard to claim 1, Braun *et al.* disclosed an x-ray tube, comprising: an evacuated enclosure (98) containing an electron source (40A) and an anode (38A) positioned to receive electrons produced by the electron source; an outer housing (94) containing the evacuated enclosure; and a mounting assembly configured to mechanically support the evacuated enclosure within the outer housing, comprising: a first mounting portion (108) that mechanically attaches to an outer surface of the outer housing (all the components are mechanically attached to each other); and a second mounting portion (100, 102) that mechanically attaches to a portion of the evacuated enclosure, wherein the evacuated enclosure is mechanically supported by the second mounting portion, and wherein the second mounting portion is mechanically supported by the first mounting portion.

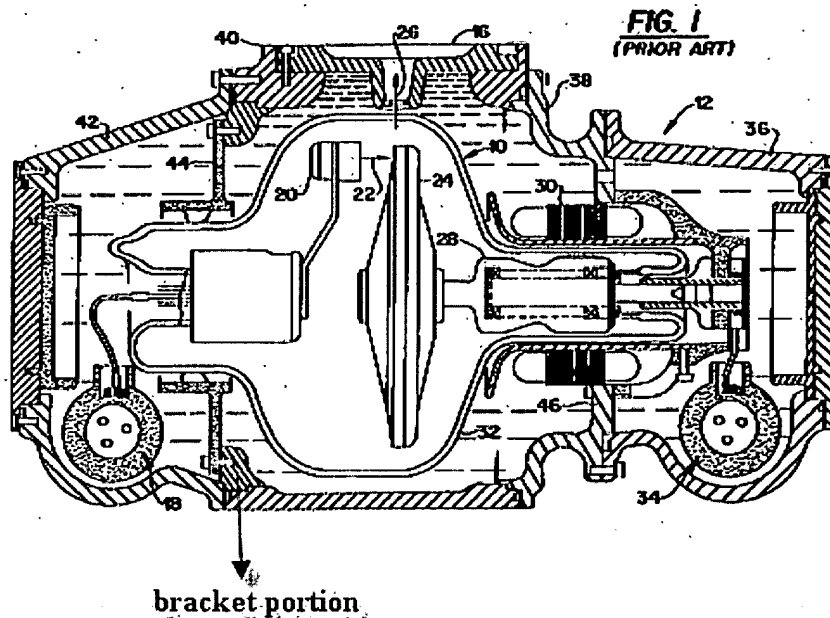
With regard to claim 2, Braun *et al.* disclosed an x-ray tube as defined in claim 1, wherein the first mounting portion comprises a bracket (108) that attaches to the second

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mounting portion using a plurality of screws (106). As defined by Merriam-Webster dictionary, a bracket is an overhanging member that projects from a structure and is usually designed to support a vertical load. The first mounting portion satisfies this definition.

With regard to claim 7, Braun *et al.* disclosed an x-ray tube as defined in claim 1, wherein the mounting assembly is further configured to mechanically attach the x-ray tube to a portion of an x-ray generating device (20).

4. Claims 8, 9, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Jedlitschka *et al.* (U. S. Patent No. 5,303,283).



With regard to claim 8, Jedlitschka *et al.* disclosed a mounting assembly comprising: a bracket portion (see figure); and a clamp portion (44) mechanically attached to the bracket portion. Note: the x-ray tube has not been given patentable weight because it is construed as an intended use for the mounting assembly.

With regard to claim 9, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8. Since claim 9 fails to set forth additional structural limitation on the mounting assembly, it is rejected with claim 8.

With regard to claim 12, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8, wherein the bracket portion has at least one surface that is shaped to physically engage a corresponding portion of the outer housing.

With regard to claim 13, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 12, wherein at least one surface of the bracket portion is a concave surface.

With regard to claim 14, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8, wherein the anode of the x-ray tube is a rotary anode.

With regard to claim 15, Jedlitschka *et al.* disclosed a mounting assembly as defined in claim 8, wherein the bracket portion further comprises a circular recess (aperture) in which the clamp portion is at least partially received when the clamp portion is mechanically attached to the bracket portion, the circular recess being concentric with the aperture of the bracket portion (Fig. 1).

5. Claims 8-15 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Okada (U. S. Patent No. 5,492,780).

With regard to claims 8, Okada disclosed a mounting assembly comprising: a bracket portion (11); and a clamp portion (20A-1) mechanically attached to the bracket portion.

With regard to claim 9, Okada disclosed a mounting assembly as defined in claim 8. Claim 9 is rejected with claim 8 since it fails to set forth additional structural limitation on the mounting assembly.

With regard to claim 10, Okada disclosed a mounting assembly as defined in claim 9, wherein the clamp portion comprises an annular ring (20A-1) having a radial cut defined there through.

With regard to claim 11, Okada disclosed a mounting assembly as defined in claim 10, wherein the bracket portion further comprises an aperture that aligns with the aperture of the clamp portion when the bracket portion and the clamp portion are mechanically attached (Fig. 1).

With regard to claim 12, Okada disclosed a mounting assembly as defined in claim 8. Claim 12 is rejected with claim 8 since it fails to set forth additional structural limitation on the mounting assembly.

With regard to claim 13, Okada disclosed a mounting assembly as defined in claim 12, wherein the at least one surface of the bracket portion is a concave surface (20B-1).

With regard to claim 14, Okada disclosed a mounting assembly as defined in claim 8. Claim 12 is rejected with claim 8 since it fails to set forth additional structural limitation on the mounting assembly.

With regard to claim 15, Okada disclosed a mounting assembly as defined in claim 8, wherein the bracket portion further comprises a circular recess (11a) in which the clamp portion is at least partially received when the clamp portion is mechanically attached to the bracket portion, the circular recess being concentric with the aperture of the bracket portion.

With regard to claim 36, Okada disclosed a mounting assembly, the mounting assembly comprising: a bracket portion (11a), the bracket portion including an aperture; a clamp portion (20A-1) having a C-shaped configuration, wherein the clamp portion also attaches to the bracket portion.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kantor *et al.* (U. S. Patent No. 6,644,853 B1) as applied to claim 1 above.

With regard to claim 2, Kantor *et al.* disclosed an x-ray tube as defined in claim 1, wherein the first mounting portion comprises a bracket. However, Kantor *et al.* failed to teach that the bracket is attached to the second mounting portion using a plurality of screws.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to attach the bracket to the second mounting portion using a plurality of screws, since a person would be motivated to mount the bracket to the second mounting portion using any well known attachment means.

With regard to claim 3, Kantor *et al.* disclosed an x-ray tube as defined in claim 2. However, although Kantor *et al.* disclosed that aluminum is a preferred material for the sake of minimizing the weight of the x-ray tube head (column 3, lines 49-51), Kantor *et al.* failed to teach that the bracket is substantially composed of aluminum.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a bracket composed of aluminum, since a person would be motivated to use a material that would reduce the weight of the x-ray tube head.

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8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Braun *et al.* (U. S. Patent No. 3,992,633) as applied to claim 2 above.

With regard to claim 3, Braun *et al.* disclosed an x-ray tube as defined in claim 2. However, Braun *et al.* failed to disclose a bracket substantially composed of aluminum.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to manufacture the bracket from aluminum, since a person would be motivated to reduce x-ray absorption in the path of x-rays by using a material that is substantially transparent to x-rays.

Allowable Subject Matter

9. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 16-35 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

With regard to claim 16-20, the prior art discloses a method of joining an evacuated enclosure to a structure, comprising attaching a clamp portion of a mounting assembly to a bracket portion of the mounting assembly such that an aperture defined in the clamp portion is aligned with an aperture defined in the bracket portion. However, the prior art fails to teach or fairly suggest that the evacuated enclosure includes a window assembly attached to an aperture defined in the evacuated enclosure, and a step of attaching the clamp portion of the mounting assembly to an extended segment of the window assembly attached to the evacuated enclosure

such that a window located in the window assembly is aligned with the apertures of the clamp portion and the bracket portion as claimed.

With regard to claims 21-29, the prior art discloses an x-ray tube comprising an evacuated enclosure containing an electron source and a rotary anode, a window assembly attached to an aperture formed in the evacuated enclosure comprising an x-ray transmissive window. However the prior art fails to teach or fairly suggest a mounting assembly comprising a clamp portion including an annular ring having a radial cut through one portion thereof, and a bracket portion having a substantially planar first surface, a curved second surface, and a aperture extending between the first and the second surfaces as claimed.

With regard to claims 30-35, the prior art discloses an x-ray generating device that comprises: a device body; an x-ray tube that includes an evacuated enclosure containing an electron source and a rotary anode positioned to receive electrons emitted by the electron source; and a mounting assembly that attaches the x-ray tube to the device body, including a bracket portion that mechanically attaches to a portion of the device body, and a clamp portion that frictionally engages a portion of the evacuated enclosure proximate an x-ray transmissive window that is located on a surface of the evacuated enclosure, wherein the clamp portion is also mechanically attached to the bracket portion. However, the prior art fails to disclose a mounting assembly that singularly supports the evacuated enclosure in a specified position with respect to the device body as claimed.

Response to Arguments

12. Applicant's arguments filed 08 May 2006 with respect to the drawings have been fully considered and are persuasive. The objection of the drawings has been withdrawn.

13. Applicant's arguments filed 08 May 2006 with respect to the specification have been fully considered and are persuasive. The objections of the specification have been withdrawn.

14. Applicant's arguments filed 08 May 2006 with respect to claims 16 and 17 have been fully considered and are persuasive. The rejection of claims 16 and 17 under 35 U.S.C. 102(b) as being anticipated by Jedlitschka *et al.* (U. S. Patent No. 5,303,283) has been withdrawn.

15. Applicant's arguments filed 08 May 2006 with respect to claims 30-35 have been fully considered and are persuasive. The rejection of claims 30-35 under 35 U.S.C. 102(b) as being anticipated by Jedlitschka *et al.* (U. S. Patent No. 5,303,283) has been withdrawn.

16. Applicant's arguments filed 08 May 2006 have been fully considered but they are not persuasive.

With regard to the rejection of claims 1 and 7 under 35 U.S.C. 102(e) as being anticipated by Kantor *et al.* (U. S. Patent No. 6,644,853 B1), the applicants argue that Kantor *et al.* failed to disclose a second mounting portion that mechanically supports the evacuated enclosure, and a first mounting portion that mechanically supports the second mounting portion. The examiner respectfully disagrees. When the x-ray tube head (16) is resting on the first mounting portion (20), the first mounting portion mechanically supports the second mounting portion (54), which in turn mechanically supports the evacuated enclosure (32). This construction is clearly shown in Fig. 4.

With regard to the rejection of claims 8, 9, and 12-15 under 35 U.S.C. 102(b) as being anticipated by Jedlitschka *et al.* (U. S. Patent No. 5,303,283), the applicants argue that Jedlitschka *et al.* failed to disclose a clamp portion that is mechanically attached to the bracket portion through an aperture defined in a surface of the outer housing. The examiner respectfully disagrees. As noted in MPEP § 2114, apparatus claims must be structurally distinguished from the prior art. Because the preamble recites "In an x-ray tube" and "the mounting assembly comprising", the examiner interprets the mounting assembly to be separate from the x-ray tube. In other words, the structure of the mounting assembly and the structure of the x-ray tube are mutually exclusive. Claim 8 claims a mounting assembly, not an x-ray tube, or any part of the x-ray tube. The mounting assembly comprises a bracket portion and clamp portion; the mounting assembly does not include any elements that are part of the x-ray tube. Thus, the outer housing of the x-ray tube is not part of the structure being claimed. An analogous situation would be for someone to claim a bracket for mounting a bookshelf in a house; the bracket is mechanically attached to a wall in the house. The structure of the bracket is the bracket itself; it does not include any part of the house. The fact that the bracket is attached to a wall of the house does not limit the structure of the bracket. If the applicants intend to claim the structure of the x-ray tube as well as the mounting assembly, then the preamble must be amended to recite a structure that comprises an x-ray tube and a mounting assembly. Jedlitschka *et al.* disclosed a mounting assembly that comprises a bracket portion and a clamp portion (44) mechanically attached to the bracket portion, which reads on the mounting assembly claimed in claim 8.

With regard to the rejection of claims 8-15 under 35 U.S.C. 102(b) as being anticipated by Okada (U. S. Patent No. 5,492,780), the applicants argue that Okada failed to disclose an x-

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ray tube and an x-ray transmissive window. The examiner respectfully disagrees for the same reason set forth above.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- (1) Findlay (U. S. Patent No. 2,344,543) disclosed an x-ray tube that comprises a bracket for securing an x-ray window.
- (2) Machlett (U. S. Patent No. 2,216,887) disclosed an x-ray tube that comprises a plurality of brackets for mounting an evacuated enclosure.

18. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen C Ho

Allen C. Ho, Ph.D.

Primary Examiner

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01 August 2006